

CLAIMS:

1. A method of producing a derivatised antibody so that the antibody is capable of binding to immobilised IgG, the method comprising:

5 treating a precursor antibody to expose a carbohydrate chain of the precursor antibody from an interstitial site on the surface of the antibody; and,
 chemically derivatising the antibody to prevent the carbohydrate chain returning to the interstitial site so
10 that the antibody is capable of binding to the immobilised IgG.

15 2. The method of claim 1, wherein the precursor antibody has Fc associated carbohydrate chains which terminate with an N-acetylglucosamine residue.

20 3. The method of claim 1 or claim 2, wherein the method includes the step of using β -galactosidase to remove terminal galactose residues from the precursor antibody.

25 4. The method of any one of claims 1 to 3, wherein the chemical derivatising step comprises thiolating the antibody in the presence of carbonate.

30 5. The method of any one of the preceding claims, wherein the method includes the step of separating derivatised antibodies which can associate with one another at a site of immobilised IgG, from those derivatised antibodies which cannot so associate.

35 6. The method of claim 5, wherein said step of separating the derivatised antibodies is by the use of Con A chromatography or by pH elution from a Protein A affinity column.

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Sub A 2 1 7. An antibody as obtainable by the method of any one of the preceding claims, wherein the antibody has been derivatised to expose a carbohydrate chain thereof so that the antibody is capable of binding to immobilised IgG.

5 8. The antibody of claim 7, wherein the carbohydrate chain is a Fc carbohydrate chain.

10 Sub A 3 9. The antibody of claim 7 or claim 8, wherein the carbohydrate chain terminates with an N-acetylglucosamine residue.

15 10. The antibody of any one of claims 7 to 9, wherein the carbohydrate chains of the derivatised antibody are capable of specifically binding a binding site on the immobilised antibody.

20 11. The antibody of any one of claims 7 to 10, wherein the immobilised IgG is agalactosyl IgG.

25 12. The antibody of any one of claims 7 to 11, wherein the antibody is conjugated to a label, toxin, drug, prodrug or effector.

30 13. The antibody of any one of claims 7 to 12, wherein the antibody is specific for an inflammatory mediator.

14. The antibody of any one of claims 7 to 13 for use in a method of medical treatment or diagnosis of a condition associated with immobilised IgG.

35 15. The antibody of claim 14 for use in the diagnosis or treatment of an autoimmune disorder.

16. The antibody of claim 15, wherein the autoimmune disorder is selected from rheumatoid arthritis, juvenile arthritis, Crohn's disease, type I insulin dependent diabetes, type II diabetes, sarcoidosis, erythema nodosum leprosum and tuberculosis.

17. The antibody of claim 16, wherein the antibody is for use in the diagnosis or treatment of erosive joint disease and the immobilised IgG is anti-type II collagen IgG.

Sub A4 18. Use of a derivatised antibody of any one of claims 7 to 14 for the preparation of a medicament for the treatment or diagnosis of a condition associated with immobilised IgG.

19. The use of claim 18, wherein the condition associated with immobilised IgG is an autoimmune disorder.

20. The use of claim 16, wherein the autoimmune disorder is selected from rheumatoid arthritis, juvenile arthritis, Crohn's disease, type I insulin dependent diabetes, type II diabetes, sarcoidosis, erythema nodosum leprosum and tuberculosis.

21. The use of claim 20, wherein the antibody is for use for the diagnosis or treatment of erosive joint disease and the immobilised IgG is anti-type II collagen IgG.

Sub A5 1 22. Use of a derivatised antibody of any one of claims 7 to 14 for the in vivo diagnosis of a condition associated with immobilised IgG, wherein the use comprises:

(a) exposing a patient to said antibody which has been labelled; and,

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(b) using the label to detect the presence of the immobilised IgG.

5 23. A pharmaceutical composition comprising a derivatised antibody of any one of claims 7 to 14, in combination with a carrier.